

L 28392-66 EPF(n)-2/EWT(1)/ETC(f)/EWG(m)/FCC IJP(c) AT/GW

ACC NR: AP6011697

SOURCE CODE: UR/0203/66/006/002/0276/0283

AUTHOR: Smirnova, V. V.

ORG: none

TITLE: Contribution to the theory of a hot probe and a photoprobe

SOURCE: Geomagnetizm i aeronomiya, v. 6, no. 2, 1966, 276-283

TOPIC TAGS: plasma diagnostics, plasma temperature, plasma structure, plasma charged particle, plasma probe, interplanetary probe, photoelectron

ABSTRACT: The author analyzes the behavior of a heated body situated in a plasma and determines the potential produced on the body as a function of the temperature of its surface and of the plasma characteristics. Equations are obtained for the electron temperature and density at which the probe potential (relative to the space potential) becomes equal to zero, for both an equilibrium plasma consisting of singly charged ions and electrons of equal temperature and for a nonequilibrium plasma (unequal ion and electron temperatures). This is followed by an analysis of a similar problem for a spherical photoelectron-emitting body placed in a plasma. It is assumed that the dimension of either probe is much smaller than the mean free path of the electrons and much larger than the Debye radius in the unperturbed plasma. It is also assumed that ions colliding with the body become neutralized and the electrons colliding with the body become absorbed. An expression is derived for the potential produced on the photoemitting probe and for the quantum yield corresponding to a given photocurrent

Card 1/2

UDC: 550.388.2

L 28392-66

ACC NR: AP6011697

2

produced by monochromatic radiation. Possible applications of the results to the potential produced by solar radiation on a body situated in an interplanetary plasma are discussed. The author thanks A. V. Gurevich for suggesting the problem and a discussion. Orig. art. has: 3 figures and 13 formulas. [02]

SUB CODE: 20/ SUBM DATE: 04Feb65/ ORIG REF: 005/ OTH REF: 002
ATD PRESS: 4262

Card 2/2 CC

LEVIN, A.N.; SMIRNOVA, V.V. (Alma-Ata)

Necessity of solving standard problems. Mat. v shkole no.1:58
Ja-F '63. (MIRA 16:6)
(Mathematics--Problems, exercises, etc.)

BOLOTINA, F.Ye.; GAMBAKYAN, Kh.P.; DENISOVA, G.A.; DUBROVINA, L.I.; KOZHINA, I.S.; KYURKCHAN, V.N.; MAKAROVA, T.I.; PAVLOVA, U.G.; REZVETSOV, O.A.; SMIRNOVA, V.V.; SURZHIN, S.N., kand. tekhn. nauk; TAMAMSHYAN, S.G.; TRUSOVA, S.A.; FILOGRIYEVSKAYA, Z.D.; CHINENOVA, E.G.; SHISHKINA, N.N.; IL'IN, M.M., zasl. deyatel' nauki RSFSR, doktor biol. nauk prof., red.; PRITYKINA, L.A., red.; ZARSHCHIKOVA, L.N., tekhn. red.

[Spice and aromatic plants of the U.S.S.R. and their use in the food industry] Priano-aromaticheskie rasteniia SSSR i ikh ispol'zovanie v pishchevoi promyshlennosti. Moskva, Pishchepromizdat, 1963. 430 p. (MIRA 17:2)

RUKOSUYEV, Andrey Nikolayevich; KNYAGINICHEV, M.I., doktor tekhn. nauk, prof., retsenzent; SMIRNOVA, V.V., kand. tekhn. nauk, dots., retsenzent; AYRIYEVA, N.S., red.; SINEL'NIKOVA, TS.B., red.; VOLKOVA, V.G., tekhn. red.

[Commercial study of food products; introduction; grain, flour and bakery products] Tovarovedenie prodovol'stvennykh tovarov; vvedenie, zerno-muchnye tovary. Izd.2., dop. i perer. Moskva, Gostorgizdat, 1963. 408 p. (MIRA 17:2)

BOLDIN, P.V.; POTSELUYEV, V.I.; RUBINCHIK, B.M.; SMIRNOVA, V.V.;
ARTYUKHIN, V.A., red.izd-va; TIKHANOV, A.Ya., tekhn. red.

[Foundry equipment; a catalog] Liteinoe oborudovanie; ka-
talog. Moskva, Mashgiz, 1963. 242 p. (MIRA 16:11)

1. Moscow. Gosudarstvennyy nauchno-issledovatel'skiy in-
stitut liteynogo mashinostroyeniya i liteynoy tekhnologii.
(Foundries--Equipment and supplies)

SMIRNOVA, V.V.

Lamine three of congruences. Sib. mat. zhur. 5 no. 1:147-165
(MIRA 17:7)
Ja-F '64.

SOKOLOV, Lev Dmitriyevich; GREBENIK, Viktor Mikhaylovich; TYL'KIN,
Mikhail Arkad'yevich; Prinimal uchastiye BAKLUSHIN, I.L.;
SMIRNOVA, V.V., kand. tekhn. nauk, dots., retsenzent;
ROKOTYAN, Ye.S., doktor tekhn. nauk, prof., retsenzent;
MOROZOV, B.A., doktor tekhn. nauk, retsenzent

[Study of the equipment of rolling mills] Issledovanie
prokatnogo oborudovaniia. Moskva, Metallurgiia, 1964. 487 p.
(MIRA 17:11)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche im. N.E.
Baumana (for Smirnova).

SELYANSKIY, V.M., kandidat biologicheskikh nauk; SMIRNOVA, V.Ya.,
kandidat sel'skokhozyaystvennykh nauk; VOSKOBONYIKOV, G.N.,
veterinarnyy vrach.

Pulmonary diseases of lambs and their therapy. Veterinaria 30
(MLRA 6:3)
no.3:41-43 Mr '53.

1. Vsesoyuznyaa stantsiya zhivotnovodstva, g. Tutayev, Yaroslav-
skoy oblasti.

1. SMIRNOVA, V. YA., MAZURIN, S. A.
2. USSR (600)
4. Uzbekistan - Wheat Grass, Crested
7. Wheat grass in Uzbekistan. Korm.baza 3 no. 10, 1952

9. Monthly List of Russian Accessions, Library of Congress, JANUARY 1953. Unclassified.

SMIRNOVA, V.Ya.

Advanced methods in the use of fertilizers. Zemledelie 23 no.10:
73-77 O '61. (MIRA 14:9)
(Fertilizers and manures)

SMIRNOVA, V.Ya., agronom

Advanced methods for using fertilizers. Zemledelie 24 no.1:77-81
Ja '62. (MIRA 15:2)
(Fertilizers and manures)

KUZNETSOV, N.A.; ASTASHEVA, Z.A., metodist; SMIRNOVA, V.Ya., metodist

In the "Agriculture" Pavilion. Zemledelie 24 no. 7:76-87
(MIRA 15:12)
Jl '62.

1. Direktor pavil'iona "Zemledeliye" na Vystavke dostizheniy
narodnogo khozyaystva (for Kuznetsov).
(Moscow—Agriculture—Exhibitions)

SMIRNOVA, V.Ya., agronom

Efficient use of fertilizers. Zemledelie 25 no.2:72-75 F '63.
(MIRA 16:5)
(Fertilizers and manures)

GORYSHINA, T.K.; SMIRNOVA, V. Ya.; TI CHAN-TSZIN¹ [T'i Ch'ang-chin]

Water balance of herbaceous summer plants in oak forests.
Vest. LGU 18 no.15:29-37'63. (MIRA 16:9)
(FOREST ECOLOGY) (PLANTS—WATER REQUIREMENTS)

SMIRNOVA, V.

Objective method for determination of the liming stage of gelatin stock. R. Gorodetskaya, M. Sheremet, M. Shakhnazarova, D. Vinnik, V. Smirnova, and R. Esakova. *Myasniya Ind. S.S.R.* 23, No. 5, 52-4 (1954).—The procedure for detg. the status of the liming of gelatin stock is based on extg. a sample and detg. extg. gelatin colorimetrically by means of the bluet reaction. Results are given for extractable gelatin in bone stock at 5-day intervals for 40 days of liming. Total extractable gelatin is detd. for various bones and other gelatin stock. M. M. Piskur

GORODETSEKAYA, R.V., kandidat khimicheskikh nauk; SHAKHNAZAROVA, M.Sh.,
mladshiy nauchnyy sotrudnik; SHEREMET, M.V.; VIRNIK, D.I.;
SMIRNOVA, V.Ye.; YESAKOVA, R.

Reducing losses in gelatin production. Trudy VNIIMP no.7:108-113
'55. (MLR 9:8)

1. Vsesoyuznyy nauchno-issledovatel'dkiy institut myasnoy promyshlennosti (for Gorodetskaya, Shakhnazarova, Sheremet); 2. Moskovskiy zhelatinovyy zavod (for Virnik, Smirnova, Yesakova).
(Gelatin)

GORODETSKAYA, R.V., kandidat khimicheskikh nauk; SHAKHNAZAROVA, M.Sh.,
mladshiy nauchnyy sotrudnik; SHEREMET, M.V.; VIRNIK, D.I.;
SMIRNOVA, V.Ya.; YESAKOVA, R.

Methods of determining the degree of liming in gelatigenous tissues.
(MLRA 9:8)
Trudy VNIIMP no.7:114-122 '55.

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy promy-
shlennosti (for Gorodetskaya, Shakhnazarova, Sheremet); 2. Moskov-
skiy zhelatinovyy zavod (for Virnik, Smirnova, Yesakova).
(Gelating)

VIRNIK, D.; YESAKOVA, R.; SMIRNOVA, V.

Efficient mixing of gelatin. Mias. ind. SSSR 28 no.5:34 '57.
(MIRA 11:1)

1. Moskovskiy zhelatinovyy zavod.
(Gelatin)

ALIYEV, Sh. B.; MAMEDOV, T. I.; SHIKHMANEDBEKOVA, A. Z.; SMIRNOVA, V. Ye.
Photochemical chlorination in propane-butanoic fractions of petroleum gases. Izv. AN Azerb. SSR no. 12:53-58 D'54. (MLRA 8:11)
(Paraffins) (Chlorination)

ALIYEV, Sh. B.; SHIKHNAMEDBEKova, A. Z.; MAMEDOV, T. I.; SMIRNOVA, V. Ye.

Condensation of chlorine derivatives obtained by the photochemical
chlorination of mixtures of gaseous alkanes with benzene. Izv. AN
Azerb. SSR no. 2:3-10 F'55.
(MLRA 8:11)
(Paraffins) (Chlorine compounds)

S/081/60/000/017/005/016
A006/A001

Translation from Referativnyy zhurnal, Khimiya, 1960, No. 17, p. 63, # 68689

AUTHORS: Smirnova, V.Ye., Topchiyeva, K.V., Zul'fugarov, Z.G.

ITLE: The Effect of the Chemical Composition, pH of the Synthesis Medium
and the Nature of Initial Sol¹s on the Activity of Alumo-Silicate
Catalysts

PERIODICAL: Azerb. Khim. zh. 1959, No. 1, pp. 83-95 (Azerb. summary)

TEXT The authors investigated the effect of pH the nature of initial
solutions and the chemical composition on the activity and pore structure of
alumosilicate catalysts, prepared by coprecipitation of water glass solutions and
sodium aluminates (series I) or aluminum sulfates (series II). It was found that
the nature of initial salt's manifests itself only in the 6.8-10.8 pH range; at
lower pH values the catalyst activity of series I does not change and that of
series II decreases. At an equal chemical composition and pH of the sol, the
catalysts of series II show a relatively higher pore diameter (d). An increased
Al₂O₃ percentage in the catalysts of series I causes an increase of d and a de-
crease in the initial activity, but promotes a higher stability in respect to
Caru 1/2

S/081/60/000/017/005/016
A006/A001

The Effect of the Chemical Composition, pH of the Synthesis Medium and the Nature of Initial Solis in the Activity of Alumo-Silicate Catalysts

processing with water vapor. After processing with H_2O vapor, the activity of all catalysts drops but their specific activity increases. The specific activity of catalysts of series I is higher than that of catalysts of series II. It is concluded that at a corresponding chemical composition of the initial solutions, pH of the formation medium plays a decisive part in the formation of active compounds.

V. Vassberg

Translator's note: This is the full translation of the original Russian abstract.

Cart 2,2

ZUL'FUGAROV, Z.G.; SMIRNOVA, V.Ye.

Relationship between the activity and thermal effects of
aluminosilicate catalysts. Azerb. khim. zhur. no.4:71-82
'59. (MIRA 14:9)
(Aluminosilicates)

S/081/62/000/002/009/107
B149/B102

AUTHORS: Smirnova, V. E., Zul'fugarov, Z. G.

TITLE: Magnitude of the endothermic effect on thermal diagrams of alumino-silicates as a measure of their activity

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 2, 1962, 77, abstract 2B548 (Azerb. khim. zh., no. 2, 1961, 49 - 55)

TEXT: Thermal diagrams of synthetic alumino-silicate catalysts and their activity in the cracking of Groznyy petroleum gas-oil distillates have been studied. The possibility of estimating the catalytic activity from the intensity of the first endothermic effect has been shown. The effect of the various stages of preparation of catalysts on their activity is discussed. [Abstracter's note: Complete translation.]

Card 1/1

ZUL'FUGAROVA, L.Sh.; MURADOVA, S.A.; SHIRINOVA, E.B.; AGDAMSKIY, T.A.;
SMIRNOVA, V.Ye.; VEZIROVA, V.R.; ZUL'FUGAROV, Z.G.

Effect of the conditions of polymerization and of the porous
structure on the activity of chromium-aluminum-magnesium
silicate catalysts. Azerb.khim.zhur. no.5:87-90 '61.

(MIRA 15:5)

(Polymerization) (Porosity) (Catalysts)

SMIRNOVA, V. Ye.

46

PHASE I BOOK EXPLOITATION

SOV/6195

Nauchnaya konferentsiya institutov khimii Akademiy nauk Azerbaydzhanskoy, Armyanskoy i Gruzinskoy SSR. Yerevan, 1957.

Materialy nauchnoy konferentsii institutov khimii Akademiy nauk Azerbaydzhanskoy, Armyanskoy i Gruzinskoy SSR (Materials of the Scientific Conference of the Chemical Institutes of the Academies of Sciences of the Azerbaydzhan, Armenian, and Georgian SSR) Yerevan, Izd-vo AN Armyanskoy SSR, 1962. 396 p. 1100 copies printed.

Sponsoring Agency: Akademiya nauk Armyanskoy SSR. Institut organo-cheskoy khimii.

Resp. Ed.: L. Ye. Ter-Minasyan; Ed. of Publishing House: A. G. Slikuni; Tech. Ed.: G. S. Sarkisyan.

PURPOSE: This book is intended for chemists and chemical engineers, and may be useful to graduate students engaged in chemical research.

COVERAGE: The book contains the results of research in physical, inorganic, organic, and analytical chemistry, and in chemical engineering, presented at the Scientific Conference held in Yerevan, 20 through 23 November 1957. Three reports of particular interest are reviewed below. No personalities are mentioned. References accompany individual articles.

TABLE OF CONTENTS:

PHYSICAL CHEMISTRY

Tsitaishvili, G. V., and Ye. D. Rosebashvili. Use of the Magnetic Method in Studying Some Complex Cobalt Compounds	5
Nanobashvili, Ye. M., and L. V. Ivanitskaya. The Effect of γ -Radiation on Colloidal Solutions of Gallium, Indium, and Thallium Sulfide	23
Zul'fugarov, Z. G., Ye. Smirnova and S. G. Muradova. The Effect of the Conditions of Synthesis and Formation on the carboxylic activity and structure of cracking catalysts.	

ZUL'FUGAROV, Z.G.; ALIYEV, A.S.; RASULOVA, S.M.; SMIRNOVA, V.Ye.

Thermographic method for determining the activity of natural
and synthetic aluminosilicate catalysts. Kin.i kat. 3 no.4:
565-571 Jl-Ag '62. (MIRA 15:8)

1. Institut khimii AN Azerbaydzhanskoy SSR.
(Aluminosilicates)

SMIRNOVA, V. YE

JUN 25 1963

SOV/6195

PHASE I BOOK EXPLOITATION

Nauchnaya konferentsiya institutov khimii Akademii nauk Azerbaydshanskoy, Armyanskoy i Gruzinskoy SSR. Yerevan, 1957.

Materialy nauchnoy konferentsii institutov khimii Akademii nauk Azerbaydzhanskoy, Armyanskoy i Gruzinskoy SSR (Materials of the Scientific Conference of the Chemical Institutes of the Academies of Sciences of the Azerbaijani, Armenian, and Georgian SSR) Yerevan, Izd-vo AN Armyanskoy SSR, 1962. 396 p. 1100 copies printed.

Sponsoring Agency: Akademiya nauk Armyanskoy SSR. Institut organicheskoy khimii.

Resp. Ed.: L. Ye. Ter-Minasyan; Ed. of Publishing House: A. G. Slikuni; Tech. Ed.: G. S. Sarkisyan.

PURPOSE: This book is intended for chemists and chemical engineers, and may be useful to graduate students engaged in chemical research.

Card 1/11

SMIRNOVA, Ya. S.

"Izmeneniye polozeniya zhenschchiny u narodov Severnogo Kavkaza za vedy Sovetskoy vlasti."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences,
Moscow, 3-10 Aug 64.

PANFILOV, N.; SMIRNOVA, Ye., starshiy prepodavatel'; KHVEDCHENYA, L.

"Principles of the economic analysis of the work of enterprises"
by M.Rubinov. Reviewed by N.Panfilov, E.Smirnova, L.Khvedchenia.
Fin.SSSR 37 no.4:93-94 Ap '63. (MIRA 16:4)

1. Zaveduyushchiy Leningradskim pronyshlennym oblastnym
finansovym otdelom (for Panfilov). 2. Leningradskiy finansovo-
ekonomicheskiy institut (for Smirnova). 3. Zamestitel' nachal'-
nika finansovogo upravleniya Leningradskogo soveta narodnogo
khozyaystva (for Khvedchenya).
(Industrial management) (Auditing and inspection)
(Rubinov, M.)

POGOSTIN, S.; SMIRNOVA, Ye.

We are discussing the White Russian experiment. Sots. trud 8
(MIRA 16:8)
no. 8:41-46 Ag '63.

1. Nachal'nik laboratorii truda i zarabotnoy platy Nauchno-
issledovatel'skogo instituta tekhniko-ekonomiceskikh
issledovaniy Gosudarstvennogo komiteta khimicheskoy i
neftyanoy promyshlennosti pri Gosplane SSSR (for Pogostin).
(White Russia—Chemical industries—Labor productivity)
(Time study)

SOV/16-59-9-21/47

17(2)

AUTHORS: Smirnova, Ye. A., Kas'yanova, L.K., and Legat, I.M.

TITLE: A Study of the Possibility of Using Ion Exchanger Resins for Eliminating Ballast Substances From Compound Antigens

PERIODICAL: Zhurnal mikrobiologii, epidemiologii i immunobiologii, 1959, Nr 9, pp 97-100 (USSR)

ABSTRACT: The compound antigens from bacteria of the enteric group, used at present for specific prophylaxis, are prepared by tryptic decomposition of the microbe culture and are purified by hydrodialysis after precipitation with spirit. Hydrodialysis, however, does not purify the antigens sufficiently of mineral impurities and, in an attempt to find a better method of purification the authors turned to ion exchanger resins. Soviet scientists are quoted as evidence that the resins possess purifying properties: F.G. Prokhorov, P. Kreych, G.I. Silin, I.E. Apel'tsin, I.P. Losev, R. Kunin, et al. The tests were carried out with SBS-1 cationite forte and EDE-10-P anionite forte. The test objects were liquid fractions of tryptic hydrolysates of *Salmonella typhosa*, *Salmonella paratyphosa*, *Shigella flexneri* and *Shigella sonnei*. The results suggested that the period of purifica-

Card 1/2

SMIRNOVA, Ye.A.; KUASIL'NIKOVA, M.V.

Immunization against diphtheria by inhalation in animal experiments. Zhur. mikrobiol. epid. i immun. 30 no.5:137 My '59.
(MIRA 12:9)

1. Iz Gor'kovskogo meditsinskogo instituta imeni S.M.Kirova.
(DIPHTHERIA)

YESIPOVA, I.K., prof., red.; SMIRNOVA, Ye.A , red.; MAZUROVA, A.F.,
tekhn. red.

[Some problems in the pathology of the lungs in the light of
recent data on their normal structure, development and regene-
ration] Nekotorye voprosy patologii legkikh v svete noveishikh
dannykh ob ikh normal'nom stroenii, razvitii, regeneratsii.
Novosibirsk, 1962. 489 p. (MIRA 15:9)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye.
(LUNGS--DISEASES)

SMIRNOVA, Ye.A.

Prevention of eye injuries in industry. Vest.oft. no.3:65-67
'61. (MIRA 14:9)

1. Mediko-sanitarnaya chast' 4-go gosudarstvennogo ordena Lenina
podshipnikovogo zavoda (nauchnyy rukovoditel' - prof. T.I.
Yeroshevskiy), Kuybyshev.
(EYE—WOUNDS AND INJURIES) (INDUSTRIAL SAFETY)

AYZEFNSUTAFT, V.A.; PUDININ, A.Z.; YENIKREYEV, P.N.; MAKSIMOV, S.P.;
SOKOLIN, Ye.A.; SOKOLIN, Kh.G.; FVENTOV, Ya.S.; EZDRIN, M.B.;
M.YU.L'MUL'NIKOV, R.B.

Outlooks of a new oil and gas producing center in the Caspian
Lowland and adjacent regions. Geol. nefti i gaza 9 no.1:1-8
Ja '65. (MIRA 18,1)

1. Gosudarstvennyy geologicheskiy komitet SSSR; Vsesoyuznyy
neftyanoy nauchno-issledovatel'skay geologorazvedochnyy institut,
Leningrad; Vsesoyuznyy nauchno-issledovatel'skaya geologorazve-
dochnyy neftyanoy institut, Moskva; Nauchno-issledovatel'skaya
laboratoriya geologicheskikh kriteriyev otsenki perspektiv
neftegazonosnosti i Nizhnevolzhskiy nauchno-issledovatel'skiy
institut geologii i geofiziki.

SMIRNOVA, Ye.A.; MASHILOVA, G.M.

Proteolytic activity of diphtheria bacteria. Zhur.mikrobiol.epid.i
immun. 33 no.5:10-14 My '62. (MIRA 15:8)

1. Iz Moskovskogo instituta vaktsin i syvorotok imeni Mechnikova.
(CORYNEBACTERIUM DIPHTHERIAE)

Smirnov, Ye.I.

Smirnova, Ye. A.

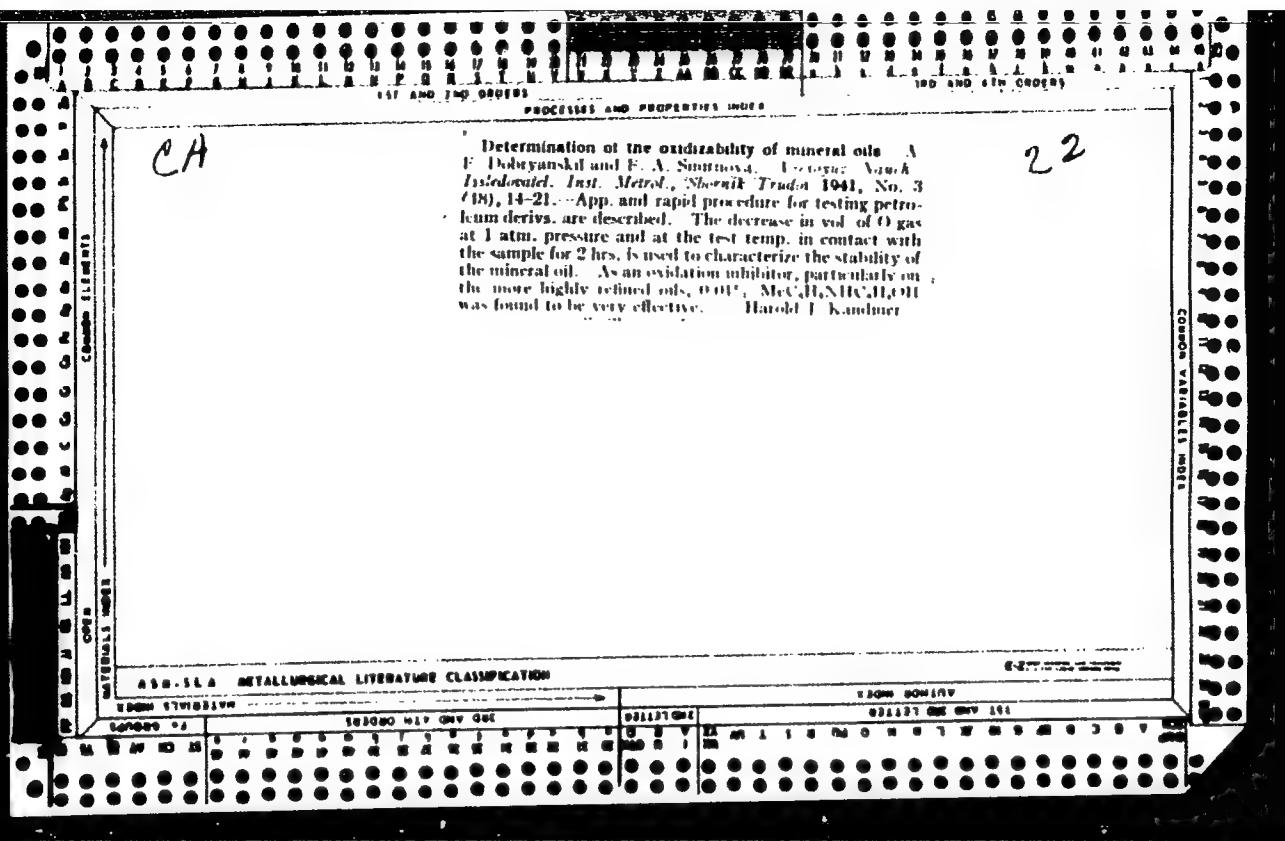
"The preparation of flax straw in kolkhozes for industrial processing in
linen factories." Moscow Order of Lenin Agricultural Academy imeni K. A.
Timiryazev. Moscow, 1956 (Dissertation for the degree of Candidate in
Agricultural Sciences)

Knizhnaya letopis
No. 15, 1956. Moscow

KOSSOVA, A.K.; ZAMUKHOVSKAYA, A.N.; SHANINA, V.I.; ZHURBINA, V.I.; SURNINA, T.I.; SMIRNOVA, Ye.A.

Immunological characteristics of complex antigens to microbes of the enteric group obtained by means of the tryptic digestion method. Nauch. osn. proizv. bakt. prep. 10:33-42 '61. (MIRA 18:7)

1. Moskovskiy institut vaktsin i syvorotok im. Mechnikova.



SMIRNOVA, Ye. A.

USSR/ Engineering - Electrodes - Copper Alloys

Nov 48

"The Technological Process of Producing a Copper-Chrome Alloy for Electrodes of Contact Machines," I. M. Goryachev, Ye. A. Smirnova, Engineers, 2 pp

"Avtogen Delo" No 11

An alloy of copper with 0.5% Chrome has high electroconductivity (90% that of pur copper) and high strength (130 kg sq mm after heat-treatment). Copper-chrome electrode is 3.1 times more durable than the copper electrode, improves weld quality, and increases labor productivity of the welder. Recommends that copper-chrome alloy be substituted for copper in producing electrodes for spot and seam welding.

PA 56/49T29

STARIK, I.Ye.; STARIK, A.S.; YASHUGINA, Ye.A.; SMIRNOVA, Ye.A.

Quantitative separation of actinium from radioactinium and
actinium. X. Trudy Radiev. inst. AN SSSR. 8:170-176 '58.

(Actinium--Analysis)

(MIRA 12:2)

VDOVENKO, V.M.; SMIRNOVA, Ye.A.

Hydration of uranyl nitrate in a series of esters and ethers.
Radiokhimia 1 no.1:36-42 '59. (MIRA 12:4)
(Hydration) (Uranyl nitrate)

VDOVENKO, V.M.; SMIRNOVA, Ye.A.

Distribution of uranyl nitrate between aqueous solutions and a
series of ethers and esters. Radiokhimia 1 no.1:43-51 '59.

(MIE 12:4)

(Uranyl nitrate) (Systems (Chemistry))

VDOVENKO, V.M.; SMIRNOVA, Ye.A.

Hydration of uranyl nitrate in solvent-extraction agent mixtures.
(MIRA 13:2)
Radiokhimia 1 no.5:521-529 '59.
(Uranyl nitrate) (Extraction (Chemistry))

VDOVENKO, V.M.; SUGLOBOV, D.N.; SMIRNOVA, Ye.A.

Infrared spectra of organic solutions of uranyl nitrate hydrates in
the deformation band of the vibrational frequencies of water. Radio-
khimiia 2 no.3:296-300 '60. (MIRA 13:10)
(Uranyl nitrate--Spectra)

VDOVENKO, V.M.; SMIRNOVA, Ye.A.

Hydration of uranyl nitrate in organic solvents during extraction
from salt solutions. Radiokhimia 2 no.3:291-295 '60.
(MIRA 13:10)
(Uranyl nitrate)

W.R. Grace, V.M.C. and U.S. Patent Office, 1922, 1923.

Subtraction of nitric acid and trityl nitroso-phenyl tri
-nonyl-nitro-phenyl ester from the following
Radicaluria 3 nos. 4,403 and 361. (U.S. 14,77
(nitric acid)
(trityl nitroso-)
(Aldoxes)

S/186/62/004/005/008/009
E075/E135

AUTHORS: Vdovenko, V.M., Koval'skaya, M.P., and Smirnova, Ye.A.
TITLE: Extraction of hydrofluoric acid and uranium fluoride
with tri-n-nonylamine solution in benzene
PERIODICAL: Radiokhimiya, v.4, no.5, 1962, 610-611

TEXT: The distribution of HF and UF₆ between aqueous solutions and tri-n-nonylamine (TNA) in benzene was studied. This follows the authors' previous work (Radiokhimiya, v.3, no.4, 1961, 403) on the extraction of mineral acids and U salts with TNA and tri-n-decylamine in benzene. The content of HF in the organic phase decreases markedly with its increasing concentration in the aqueous phase. On extraction of HF from 16-24 M solutions the organic phase contains 4 moles of the acid per mole of the amine. The transfer of water to the organic phase together with HF indicates that the amine salt is hydrated. The distribution coefficient of U(VI) decreases with a negligible increase of the acid concentration in the aqueous phase. On extraction from 10 M acid with 0.3 M amine the distribution coefficient decreases with the increasing concentration of U(VI) in the original solution.

Card 1/2

SMIRNOVA, Ye.A.

Efficiency of the prospecting of the oil and gas fields of the
Caspian Lowland and the Mangyshlak Peninsula. Neftegaz. geol. i
geofiz. no.7:44-46 '64. (MIRA 17:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy
neftyanoy institut.

L 44278-65 EWT(m)/EPF(n)-2/EWP(t)/EWP(b) Pu-4 IJP(c) JD/WW/JG

ACCESSION NR: AP5008001

S/0186/65/007/001/Q007/0014

AUTHOR: Vdovenko, V. M.; Koval'skaya, M. P.; Smirnova, Ye. A.

TITLE: Extraction of uranium from a hydrofluoric-nitric acid mixture using benzene solutions of tertiary amines

SOURCE: Radiokhimiya, v. 7, no. 1, 1965, 7-14

TOPIC TAGS: uranyl radical, extracting agent, hydrofluoric acid, nitric acid, nonylamine, decylamine

ABSTRACT: The majority of recent reports on the extraction of uranium salts and mineral acids with aliphatic amines in organic solvents have dealt with extraction from a media containing one acid and the corresponding salt of uranium. The present research was undertaken because in practice one frequently needs to extract uranium from solutions containing a mixture of acids and the extraction is greatly dependent on the type of acid which is present in the aqueous medium. Before investigating the extraction of uranium from an HF-HNO₃ mixture the extraction of the acids themselves from their mixtures was studied. Solutions of tri-n-nonylamine and tri-n-decylamine in benzene were used as extractants. During the extraction of HNO₃ and

Card 1/4

L 44278-65

ACCESSION NR: AP5008C01

HF from their mixtures it was found that the presence of HNO_3 greatly decreases the concentration of HF in the organic phase. In the extraction of uranium from aqueous solutions containing a constant concentration of uranyl fluoride and hydrofluoric acid and a varying concentration of nitric acid the uranium distribution coefficient as a function of the HNO_3 concentration displays a minimum (see fig. 1 of the Enclosure). Spectrophotometric data indicated that during the extraction of uranium from an HF- HNO_3 mixture an increase in the concentration of HNO_3 in the aqueous phase results in the decrease of the concentration of uranium fluoride complex in the organic phase and consequently the nitrate complex fraction increases. At a constant concentration of HNO_3 and a variable concentration of HF the extraction of uranium from the acid mixture depends greatly on the ratio of the concentration of nitric acid and that of the amine. When the concentration of the amine is greater than that of HNO_3 the distribution coefficient for uranium greatly increases in the beginning with an increase of the concentration of HF in the aqueous phase and then it gradually decreases. When the concentration of HNO_3 is greater than the concentration of the amines the addition of HF to the aqueous solution results in a decrease in the distribution coefficient for uranium. Orig. art. has: 8 tables and 8 figures.

Card 2/4

L 44278-65

ACCESSION NR: AP5008001

ASSOCIATION: none

SUBMITTED: 28Nov63

ENCL: 01

SUB CODE: IC

NO REF SOV: 003

OTHER: 002

Card 3/4

L 26752-66 EWT(m)/T/EWP(t) IJP(c) JD

ACC NR: AP6011482

SOURCE CODE: UR/0070/66/011/002/0352/0354

AUTHOR: Bovina, L. A.; Vinogradova, V. G.; Poluboyar' nova, M. F.; Smirnova, Ye. A.; Kharakhorin, F. F.

ORG: none

TITLE: Sectorial structure of single crystals of indium antimonide doped with germanium

SOURCE: Kristallografiya, v. 11, no. 2, 1966, 352-354

TOPIC TAGS: indium compound, antimonide, electric conductivity, thermal emf, crystal structure, single crystal, semiconductor conductivity, crystal growth

ABSTRACT: The authors investigated the transverse inhomogeneity in the conductivity in single crystals of indium antimonide doped with germanium to an excess-acceptor density 10^{12} - 10^{14} cm $^{-3}$. The crystals were grown by the Czochralski method in the [111] and [211] directions at an inert gas pressure of 600 mm Hg. The conductivity inhomogeneity was determined from the sign of the thermal emf measured at liquid-nitrogen temperature. Most crystals grown in the [111] direction had n-type regions in the center and most frequently in the uppermost section of the crystal. With increasing crystal length, the entire section assumes a p-type conductivity and only a narrow ring of n-type (0.1-0.2 mm) appears on the edges of the plates cut from the crystal. In the [211] direction only peripheral n-type regions are produced. The results are attributed to the bending of the crystallization front and to varia-

Card 1/2

UDC: 548.52

L 26752-66

ACC NR: AP6011482

tion of the ratio of the effective donors through the volume of the crystal. It is therefore concluded that the inhomogeneities in the conductivity type in the transverse direction of weakly doped single crystals are due to residual donor impurities. Orig. art. has: 3 figures and 1 formula.

SUB CODE: 20/ SUBM DATE: 07Jan65/ ORIG REF: 001/ OTH REF: 002

Card 2/2 ✓

DRAGUNOV, V.I.; SMIRNOVA, Ye.B.

Characteristics of the tectonic pattern of the northwestern margin of the Central Siberian Plateau. Trudy VSEGEI 97:41-57
'64. (MIRA 17:8)

SMIRNOVA, Ye. N.

Karst in the Non-Chernozem region and its effect on the agricultural
use of land. Trudy MOIP 12:175-177 '64.
(MIRA 18:1)

SMIRNOVA, Ye.

Studying the organization of quality control in the rubber
industry enterprises. Biul. nauch. inform.; trud i zar.
plata 4 no.7:30-35 '61. (MIRA 14:8)
(Rubber industry--Quality control)

SMIRNOVA, Ye.D.

Ways of improving the organization of production control in rubber
industry plants. Kauch. i rez. 20 no.11:39-45 N '61.
(MIRA 15:1)
1. Nauchno-issledovatel'skiy institut rezinovykh i lateksnykh
izdeliy.
(Rubber industry)

SMIRNOVA, Yelena Dmitriyevna, SHEMONAYEV, P., red.; LIL'YE, A. tekhn.red.;

[Rivers and lakes of Moscow Province] Reki i ozera Moskovskoi oblasti.
[Moskva] Mosk. rabochiye, 1958. 95 p.

(MIRA 11:9)

(Moscow Province--Rivers)

(Moscow Province--Lakes)

GVOZDETSKIY, N.A.; SMIRNOVA, Ye.D.; TSESEL'CHUK, Yu.I.

New data on karst in the non-Chernozem center. Vest.Kosk. un.
Ser. 5: Geog. 15 no.4:59-61 Jl - Ag '60. (MIRA 13:9)
(Karst)

GVOZDETSKIY, N.A.; SMIRNOVA, Ye.D.

University work on the physicogeographical regionalization
of the U.S.S.R. and the study of karst. Nov.kar.i spel.
no.2:80-83 '61. (MIRA 15:9)
(Karst) (Physical geography)

GVOZDETSKIY, N.A., prof.; ZHUCHKOVA, V.K., dots.; ALISOV, B.P., prof.; VASIL'YEVA, I.V., dots.; VARLAMOVA, M.N., tekhnik-kartograf; DOLGOVA, L.S., dots.; ZVORYKIN, K.V., st. nauchnyy sotr.; ZEMTSOVA, A.I., assistant; IVANOVA, T.N.; LEBEDEV, N.P., st. prepodavatel'; LYUBUSHKINA, S.G.; NESMEYANOVA, G.Ya., mlad. nauchnyy sotr.; PASHKANG, K.V., st. prepod.; POLTARAUS, B.V., dots.; RYCHAGOV, G.I., st. prepod.; SPIRIDONOV, A.I., dots.; SMIRNOVA, Ye.D., mlad. nauchnyy sotr.; SOLNTSEV, N.A., dots.; FEDOROVA, I.S., mlad. nauchnyy sotr.; TSESEL'CHUK, Yu.N., mlad. nauchnyy sotr.; SHOST'INA, A.A., mlad. nauchnyy sotr.; Prinimali uchastiye: BELOUSOVA, N.I.; GOLOVINA, N.N.; KALASHNIKOVA, V.I.; KOZLOVA, L.V.; KARTASHOVA, T.N.; PAN'KOVA, L.I.; URKIKHO, V.; PETROVA, K.A., red.; LOPATINA, L.I., red.; YERMAKOV, M.S., tekhn. red.

[Physicogeographical regionalization of the non-Chernozem center] Fiziko-geograficheskoe raionirovaniye nechernozemnogo tsentra. Pod red. N.A.Gvozdetskogo i V.K.Zhuchkovoi. Moskva, Izd-vo Mosk. univ., 1963. 450 p. (MIRA 16:5)
(Physical geography)

ZHUCHKOVA, V.K.; SMIRNOVA, Ye.D.; GVOZDETSKIY, N.A., prof., red.;
GARYNOV, F.I., red.; MALAKHOV, F.N., red.; CHISTYAKOVA,
K.S., tekhn. red.

[Physical geography of the U.S.S.R.; selected lectures for
correspondence course students attending geographical
faculties of state universities] Fizicheskaiia geografiia
SSSR; izbrannye lektsii dlia studentov-zaochnikov geografi-
cheskikh fakul'tetov gosudarstvennykh universitetov. Pod
red. N.A.Gvozdetskogo. Moskva, Izd-vo Mosk. univ. No.7. [By]
V.K.Zhuchkova, E.D.Smirnova. 1963. 69 p. (MIRA 17:3)

1. Moscow. Universitet. Nauchno-metodicheskiy kabinet po za-
ochnomu i vechernemu obucheniyu.

SMIRNOVA, Ye.D.

"Labor expenditure" method for measuring and planning labor productivity in the chemical industry. Khim. prom. no.5:
384-388 My '63. (MIRA 16:8)

1. Nauchno-issledovatel'skiy institut tekhniko-ekonomiceskikh issledovaniy khimicheskoy promyshlennosti.

18.1245 1416.1154 only

S/156/61/000/001/007/010
E021/E206

AUTHORS: Mikheyev, I. M. and Smirnova, Ye. I.

TITLE: Wrought Semi-fabricated Articles of the Magnesium Alloy MA10

PERIODICAL: Tsvetnyye metally, 1961, No. 1, pp. 79-82

TEXT: This article deals with the melting, ingot casting, extrusion, welding and corrosion resistance of the MA10 magnesium base alloy, which contains aluminium, cadmium, silver and manganese (% content not specified). According to the authors, melting, ingot casting and extrusion procedures for this alloy do not differ markedly from those used for other magnesium alloys. Aluminium and manganese are added during melting, while cadmium and silver are added in the mixer. Ingots are cast by a semicontinuous process and then conditioned by machining. Round billets are 345 mm in diameter and 600-1100 mm long; flat billets are 160 x 540 x 700 mm. Bars, panels and strip were extruded on a horizontal press. Tubes were prepared from the bars on a vertical press. Forgings and stampings were also prepared from the bars. Extruding the bars, panels and strip at rates of flow greater than

Card 1/3

S/136/61/000/001/007/010
E021/E206

Wrought Semi-fabricated Articles of the Magnesium Alloy MA10
0.3 m/min., and tubes at greater than 0.5 m/min. resulted in
transverse tears. Extruding at 350-400°C at lower rates of flow
gave a good surface and a uniform fine grain. The forgings and
stampings also had a good surface and a similar structure. Micro-
investigations showed that the semi-fabricated articles consisted
of complex solid solutions of cadmium, silver, aluminium and man-
ganese in magnesium and chemical compounds of complex nature. The
strength of the MA10 alloy at all temperatures up to 300°C is
superior to all other magnesium alloys; at 250°C the strength of
the alloy is equal to, and at 300°C superior to, that of the B95
(US7075) aluminium alloy. Alloy MA10 is recommended for short-time
service at temperatures below 300°C. Data on the mechanical
properties of this alloy are given in Table 1. Corrosion resistance
of the alloy is somewhat lower than that of the MA8 alloy (a wrought
magnesium alloy containing 1.5-2.5% manganese and 0.5-0.35% cerium).

Card 2/3

MIKHEYEV, I.M.; SMIRNOVA, Ye.I.

Deformation of MA10 magnesium alloy ingots. TSvet. pat. 24 no.1:
79-82 Ja '61. (MIRA 17:3)

SMIRNOVA, Ye. I.

Cand Biolog Sci

Dissertation: "Comparative Characteristic of the Normal and Anovulatory Sexual Cycles (Investigation on Large Cattle)." 25/12/50

Second Moscow State Medical Inst imeni I. V. Stalin

SO Vecheryaya Moskva
sum 71

SMIRNOVA, YE. I.

Nonovulatory sex cycle of cattle. E. I. Smirnova (I. V. Stalin 2nd Med. Inst., Moscow). *Byull. Akad. Biol. i Med.* 37, No. 2, 51-4 (1964). No ovulation occurs during nonovulatory sex cycle either in cattle or humans. Endocrine organs of 60 cows and calves, kept without exercise in poorly lighted quarters and fed only potato mash, were used in the study. Cyclic changes in hormonal contents, extent of vacuolization of thyroid colloid and extent of its removal from follicles as well as the measurements of the diam. of the follicles were the criteria employed. The ova of animals undergoing nonovulatory sex cycle differ from those of normal animals by the absence of corpus lutea, increased size of the follicles, increased concn. of gonadotrophic hormone in the middle of the cycle, accompanied by very low concn. of luteinizing hormone and low concn. of thyrotrophic hormone in all 4 stages of the cycle. Poor nutritional state of the animals, particularly the low vitamin intake, may account for the nonovulatory sex cycle of these animals, resulting in sterility. I. A. Stekol

SMIRNOVA, Ye. I.

Endocrine character of the anovular sexual cycle. Uch.zap. 2-go
MGMI 16:164-174 '58. (MIRA 13:6)
(OVARIES--DISEASES) (ENDOCRINE GLANDS)

SMIRNOVA, Ye. I.

Restoration of the ovarian function of the ovary by elimination
of the iodine deficiency in the diet. Uch.zap. 2-go MGMI 16:
175-191 '58. (MIRA 13:6)
(OVARIES--DISEASES) (IODINE--THERAPEUTIC USE)
(VITAMINS--A)

SMIRNOVA, Ye.I., kand.biologicheskikh nauk

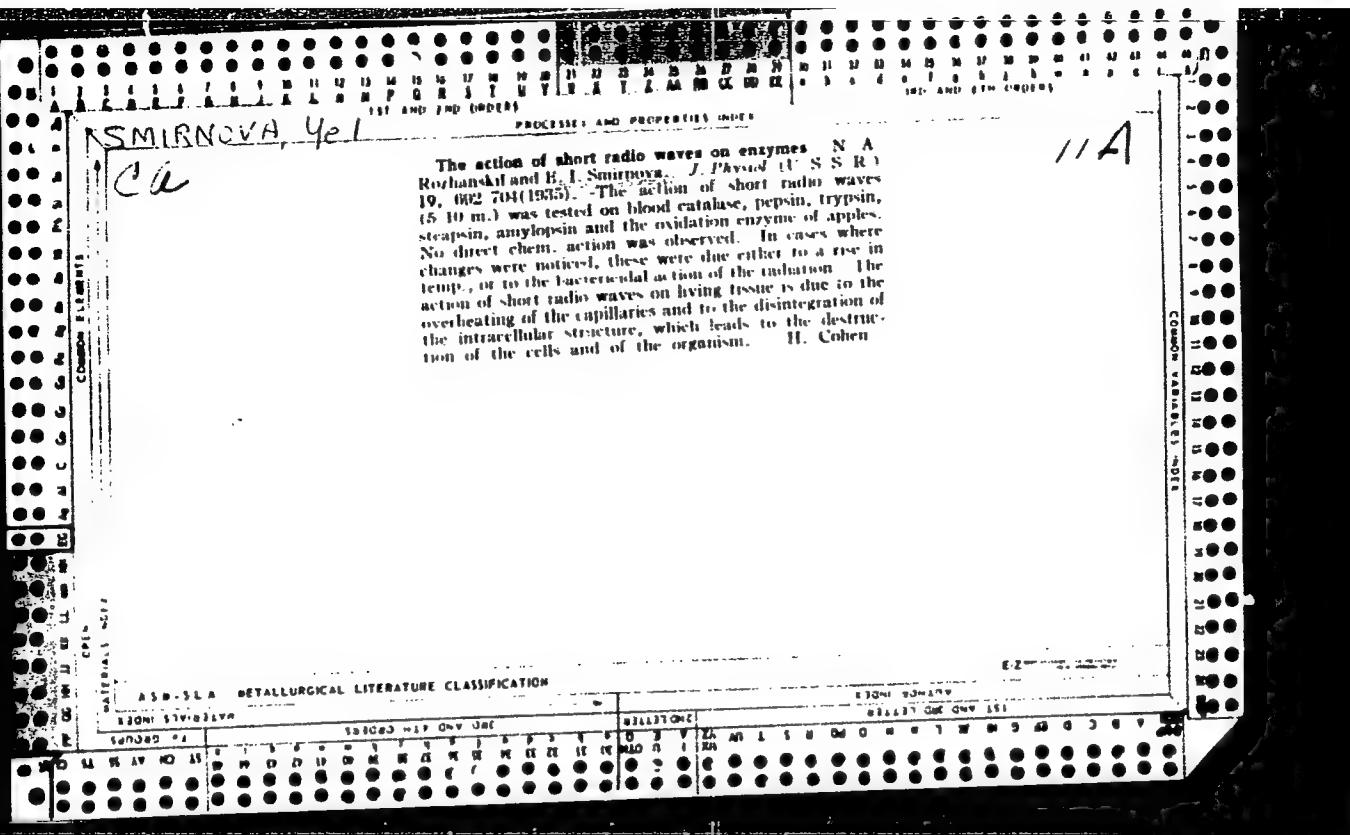
What are prophylactic doses of iodine? Veterinaria 38 no.1:66-
70 Ja '68. (MIRA 15:4)

(Iodine--Therapeutic use)
(Veterinary materia medica and pharmacy)

SMIRNOVA, Ye. I.

"The role of iodine in ovulation."

report submitted to 5th Intl Cong, Animal Reproduction & Artificial Insemination,
Trenty, Italy, 6-13 Sep 64.



SMIRNOVA, Ye. I. Cand Biol Sci -- (diss) "Effect of ~~protracted~~ ^{prolonged} ultraviolet
irradiation ^{and} ~~emanating from~~ various sources upon the productivity and ~~the~~
physiological condition of layer hens." Mos, 1957. 16 pp (Min of Agriculture
USSR. Mos Vet Akad), (KL, 14-58, 112)

USSR/Farm Animals. Domesticated Fowl.

Q

Abstr Jour: Ref Zhur-Biol., No 20, 1958, 92634.

Author : Smirnova, Ye. I.

Inst : All-Union Scientific Research Institute for Animal Husbandry.

Title : The Effect of Ultra-Violet Rays from Diverse Sources on the Physiology of Egg-Layers.

Orig Pub: Byul. nauchno-tekhn. inform. Vses. n.-i. in-ta zhivotnovodstva, 1957, (vyp.) aspirantskiy, 56-59.

Abstract: The effect of two ultraviolet radiation sources are compared. The first group of chickens was irradiated with EUV-15 lamps which radiated ultraviolet rays with a wave length of 290-320 m μ ; the second was irradiated with mercury-quartz PRK-2 lamps with a

Card : 1/2

USSR / Farm Animals. Domestic Fowl.

Abs Jour: Ref Zhur-Biol., No 9, 1958, 40520.

Author : Smirnova Ye. I.

Inst : Not given.

Title : The Influence of Ultraviolet Rays on the Production and on the Physiological Condition of Hens.

Orig Pub: Ptitsvodstvo, 1957, No 7, 40-43.

Abstract: From 15 October 1955 through 1 November 1956, at the sovkhoz "Podol'skiy" of the Moscow Oblast', observations of the egg-laying capacity and of the physiological condition of three groups of hens were carried out. The 1st group (400 fowls), a control one, was not subjected to irradiation. The 2nd group (500 fowls) was irradiated with lamps EUV-15, and the 3rd one (700 fowls) - with lamps PRK-2.

Card 1/2

SKIBNOVA, Ye. I. —

"Variability of Plague Bacilli Found in the Ocean." Cand Med Sci,
State Sci-Res Inst of Microbiology and Epidemiology of the Southwestern
USSR, "Microb", Saratov, 1953. (RZhBiol, No 4, Oct 54)

Survey of Scientific and Technical Dissertations Defended at
UESR Higher Educational Institutions (10)

SO: Sum. No. 481, 5 May 55

VERENINOVA, N.K.; SMIRNOVA, Ye.I.; KALACHEVA, N.F.; KUZNETSOVA, N.I.; KARASHEVA,
Z.N. ~~.....~~

Effectiveness of a compound living vaccine against plague, tularemia,
brucellosis, and anthrax. Report No.1: Compatibility of living vaccines
(plague, tularemia, brucellosis and anthrax) under experimental condi-
tions in guinea pigs. Zhur. mikrobiol. epid. i immun. 29 no.11:45-52
N '58. (MIRA 12:1)

1. Iz Instituta mikrobiologii i epidemiologii Yugo-Vostoka SSSR (Mikrob).
(PLAGUE, immunol.
live plague-tularemia-brucellosis-anthrax polyvaccine, eff.
in guinea pigs (Rus))
(TULAREMIA, immunol.
same)

VERENINOVA, N.K.; SMIRNOVA, Ye.I.; KALACHEVA, N.F.; KUZNETSOVA, N.I.;
MEL'NIKOVA, A.P.; DOBROTSEVTOVA, T.Ya.

Effectiveness of complex vaccination with live vaccines against plague,
tularemia, brucellosis, and anthrax. Report No.2: Intensity of immunity
in complex vaccination of guinea pigs against intratracheal infection.
Zhur. mikrobiol., epid. i immun. 30 no.11:19-24 N '59. (MIRA 13:3)

1. Iz Gosudarstvennogo nauchno-issledovatel'skogo instituta mikrobiologii i epidemiologii yugo-vostoka SSSR.

(PLAQUE, immunol.)
(TULAREMIA, immunol.)
(BRUCELLOSIS immunol.)
(ANTHRAX immunol.)
(VACCINATION)

VOTYAKOV, V.I.; GRITSKEVICH, A.V.; KORZENKO, V.N.; PASHCHUK, V.P.;
KUBANOVA, F.G.; SENCHUK, T.T.; SMIRNOVA, Ye.I.

Summarized results of a study of natural focus infections in
White Russian S.S.R. Report no.2: Tularemia, brucellosis,
trichinosis. Zhur.mikrobiol.epid.i immun. 31 no.2:65-68 F '60.
(MIRA 13:6)

1. Iz Belorusskogo instituta epidemiologii, mikrobiologii i
gigiyeny.

(TULAREMIA epidemiol.)
(BRUCELLOSIS epidemiol.)
(TRICHINELLA epidemiol.)

STKFOV, S.B.; SMIRNOVA, Ye.I.

Excess of free tails in suspension of *Bacillus mycoides*
bacteriophage No.1. *Mikrobiologiya* 32 no.5:819-826 S-0'63
(MIRA 17:2)

1. Laboratoriya elektronnoy mikroskopii Otdeleniya biologicheskikh nauk AN SSSR.

STEFANOV, S. B.; MIRSKII, V. I.

Bacteriophage particles with two tails. Mikrobiologija 33
no. 4:643-646 Jl-Ag '64. (MIRA 18:3)

1. Laboratoriya elektronnoj mikroskopii AN SSSR.

Smirnov, V. V.

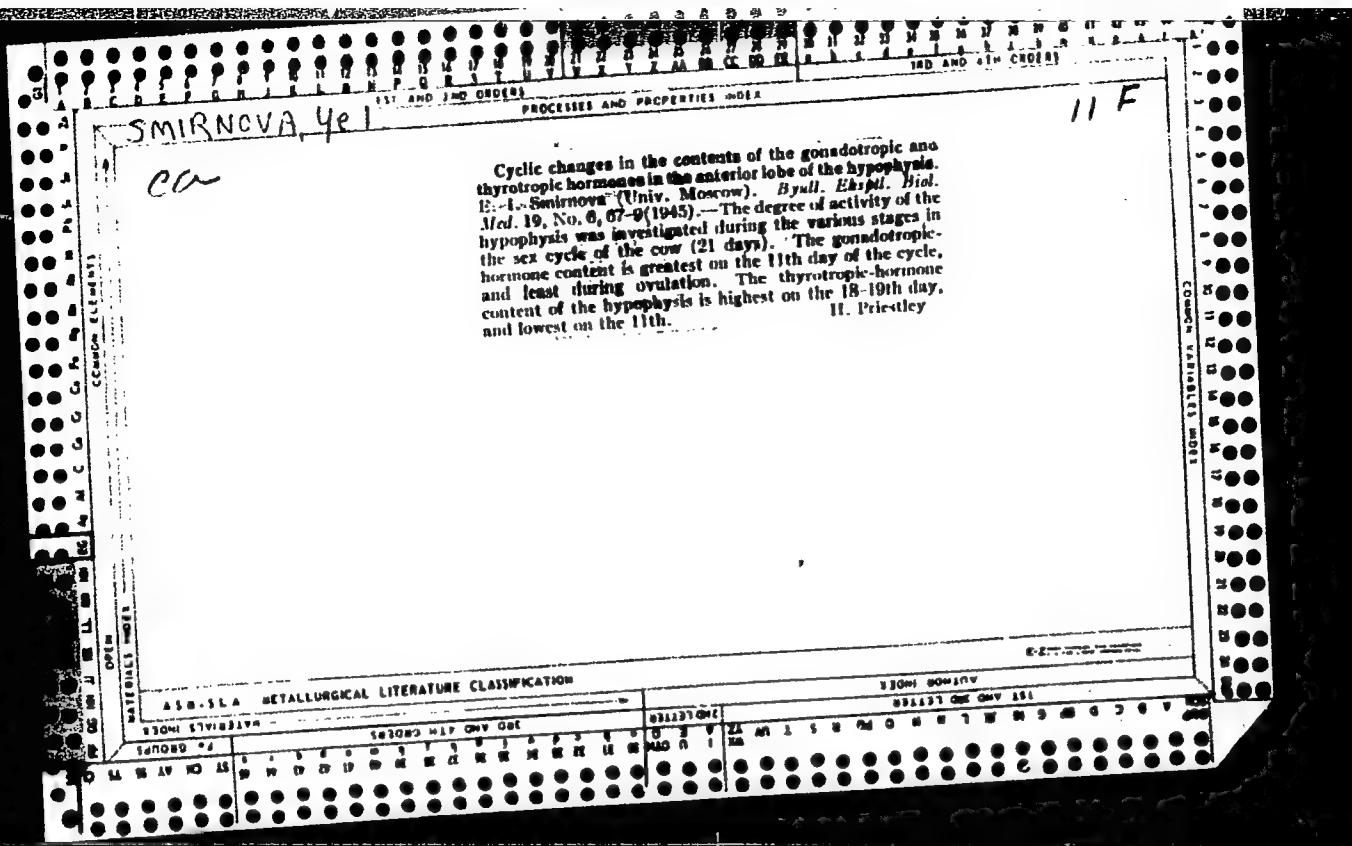
and N. S. Sviridov

list ref. 51: "Histogenesis of the Smooth Muscles of the Intestines in the Human Embryo."

13 April 42

Moscow Order of Lenin State University N. V. Lomonosov.

SO Vecheryaya Moskva
Sum 71



MAKHOVKO, V.V., professor; ZORIN, A.N.; KOROBOVA, T.B.; KRASHEVNIKOVA, A.I.;
LAPINA, V.P.; SMIRNOVA, Ye.I.; SUKHACHEV, N.G.; ZHEGALOV, S.B.

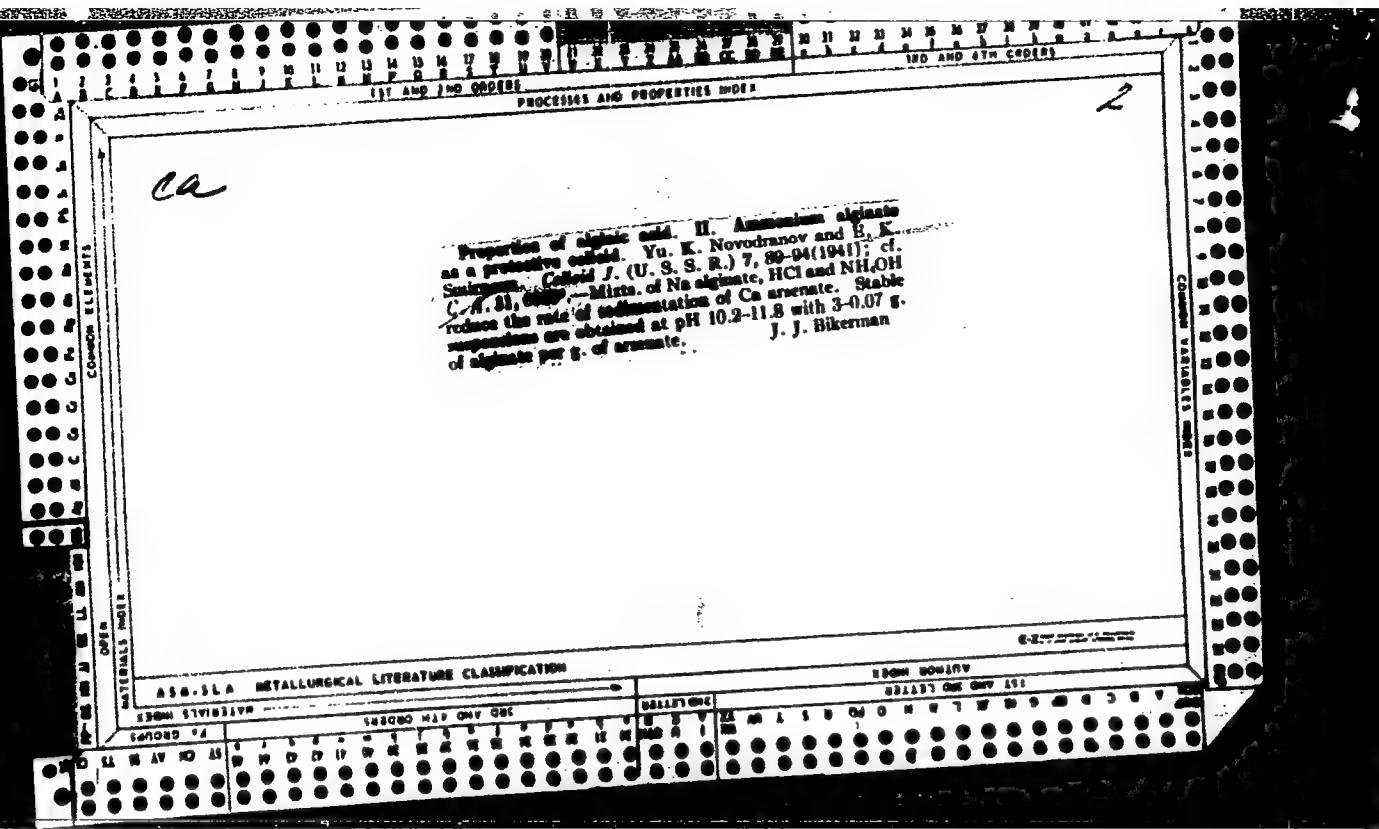
[Practical work in general biology for medical schools] Praktikum po
obshchei biologii dlia medvuzov. Moskva, Medgiz, 1953. 294 p. (MLR 7:1)
(Biology)

GONCHAROVA, M.N., prof.; SMIRNOVA, Ye.I.; EPSHTEYN, G.Ya., prof.;
OBODAN, N.M., starshiy nauchnyy sotrudnik

Organization of control over children's injuries in Leningrad.
Zdrav. Ros. Feder. 4 no.8:22-26 Ag '60. (MIRA 13:9)
(LENINGRAD—CHILDREN—ACCIDENTS)

SABIROVA, G.V. [Sabirova, H.V.], kand.khim.nauk; FORUTSKIY, G.V. [Poruts'kyi, H.V.], kand.khim.nauk; TERENT'YEVA, V.N. [Terent'ieva, V.N.]; SIMIROVA, Ye.I. [Symurova, O.I.]

Improving the quality of the Lvov petroleum growth promoting substances. Khim.prom. [Ukr.] no.2:32-33 Ap-Je '65. (MIRA 18:6)



SHTRUNINA, Ye. N.

SHTRUNINA, Ye. N. --"Skin Formation on Manganese and its Iron Alloys." *(Dissertations for Scientific Science and Engineering) Defended at USSR Higher Educational Institutions) Leningrad Order of Lenin State University, A. Zhdanov, Leningrad, 1955

Dr: Khochin, Lato, Is', No. 25, 18 Jun 55

* For Degree of Candidate in Chemical Sciences

SOV/137-58-9-19481

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 192 (USSR)

AUTHORS: Ipat'yev, V.V., Smirnova, Ye.K.

TITLE: Kinetics of Oxidation of Manganese at High Temperatures in Atmospheres of Dry Air, Water Vapor, and Carbon Dioxide (Kinetika okisleniya margantsa pri vysokikh temperaturakh v atmosfere sukhogo vozdukha, vodyanogo para i uglekislogo gaza. Sostav i struktura okaliny)

PERIODICAL: Uch. zap. LGU, 1957, Nr 227, pp 77-99

ABSTRACT: The rate of oxidation (RO) of Mn in an atmosphere of dry air (DA) at 500-1000°C, and a duration of oxidation of 35-83 hours, in CO₂ at 700-980° for 21-48 hours, and in water vapor at 670-970° and the duration of oxidation of 23-54 hours was investigated by the method of periodic weighing. The chemical and phase composition of the scale was determined with the aid of micrographic, X-ray diffraction, and chemical analyses. It is established that, discounting the initial period of oxidation, the RO of Mn versus time, in all the media investigated, is subject to a parabolic law; the relationship of RO of Mn to temperature in the $\log_{10} K = f(1/T)$ coordinates has the form of a straight

Card 1/2

SOV/137-58-9-19481

.Kinetics of Oxidation of Manganese at High Temperatures (cont.)

line and can be expressed for the DA atmosphere by the equation: $\log_{10}K = -38,000/2.3RT + 7.5$; in water vapor: $\log_{10}K = -47,000/2.3RT + 8.7$; in CO_2 : $\log_{10}K = -32,000/2.3RT + 5.5$, from which facts it follows that RO of Mn in water vapor and CO_2 is approximately equal but lower than in DA. It is demonstrated that scale formed on Mn in a DA atmosphere at $670-800^\circ$ consists of three oxides, namely, MnO , Mn_3O_4 , and Mn_2O_3 , and at $800-1000^\circ$ of two: MnO and Mn_3O_4 . With an increase in temperature the MnO contents in the scale increase and the Mn_3O_4 and Mn_2O_3 contents decrease. The composition of the scale formed in water vapor and CO_2 is identical: MnO and Mn_3O_4 . The MnO layer in the scale contains inclusions of a secondary Mn_3O_4 phase which separates upon cooling.

G.M.

1. Manganese--Oxidation
2. Water vapors--Metallurgical effects
3. Air--Metallurgical effects
4. Carbon dioxide--Metallurgical effects
5. Mathematics

Card 2/2

SOV/137-58-9-19466

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 189 (USSR)

AUTHORS: Smirnova, Ye.K., Ipat'yev, V.V.

TITLE: Rate of Scale Formation on Alloys of Manganese With Iron in the Atmosphere of Dry Air and Water Vapor (Skorost' okalino-obrazovaniya na splavakh margantsa s zhelezom v atmosfere sukhogo vozdukha i vodyanogo para)

PERIODICAL: Uch. zap. LGU, 1957, Nr 227, pp 100-125

ABSTRACT: The kinetics of the oxidation (OX) of Mn-Fe alloys containing 2, 6, 27, and 50% Mn in an atmosphere of dry air at 670-930°C and a 27 to 74-hour duration of the experiment, and of Mn-Fe alloys containing 20, 34, 57, and 68% Mn in an atmosphere of water vapor at 680-970° and a 22-108-hour exposure to OX were investigated. It is demonstrated that the rate of OX of alloys in time is satisfactorily described by a parabolic law, and the relationship of the rate of OX to temperature is expressed by an Arrhenius-type equation. It is established that in the dry-air atmosphere the rates of OX of alloys and of pure metals are quite close; however, the alloys oxidize a little less. The alloys undergoing the minimum of OX are those containing

Card 1/2

SOV/137-58-9-19466

Rate of Scale Formation on Alloys of Manganese With Iron (cont.)

27% Mn, with a correspondingly smaller thickness of the (Fe, Mn)O layer in the scale of the alloy than the thickness of the layers of MnO and FeO in the scale of the pure metals. It is shown that in the water-vapor atmosphere the rate of OX of alloys is somewhat higher than the rate of OX of metals, while the highest rate of OX is possessed by alloys containing 20-40% Mn. At the same time an increase in the thickness of the (Mn, Fe)O layer in the scale is observed. The results obtained indicate that Mn has little effect on the heat-stability properties of Fe. The structure of the scale forming on Mn-Fe alloys has much in common with the structure of the scale forming on pure metals. Bibliography: 27 references.

G.M.

1. Iron-manganese alloys--Scale
2. Corrosion--Theory
3. Water vapor--Metallurgical effects
4. Air--Metallurgical effects

Card 2/2

SHCHUKAREV, S.A.; SMIRNOVA, Ye.K.; VASIL'KOVA, I.V.; LAPPO, L.I.

Enthalpies of formation of tantalum pentachloride and pentabromide.
Vest. LGU 15 no.16:115-119 '60. (MIRA 13:8)
(Tantalum chloride) (Tantalum bromide)
(Enthalpy)

S/078/62/007/006/001/024
B124/B138

AUTHORS: Shchukarev, S. A., Smirnova, Ye. K., Vasil'kova, I. V.,
Borovkova, N. I.

TITLE: Formation enthalpy of niobium pentabromide and oxytribromide

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 6, 1962, 1213-1215

TEXT: This was determined from their measured hydrolysis enthalpies for a newly developed method of separating niobium and tantalum by fractionating their bromine compounds. NbBr_5 free from oxybromide was produced by making niobium pentoxide react with CBr_5 in sealed ampoules evacuated with a forepump. A mixture of Nb_2O_5 , NbOBr_3 , and unreacted CBr_4 was obtained by 18-20 hr heating at 200°C . The ampoule was cooled, the gaseous reaction products were removed, the ampoule was sealed again and heated for 8-10 hr at $360-380^\circ\text{C}$. The reaction products CO , COBr_2 , and Br_2 were drawn off with a forepump at 70°C . The resulting NbBr_5 was purified

Card 1/2